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(54) Title: METHODS AND COMPOSITIONS FOR IN VITRO SYNTHESIS OF BIOLOGICAL MACROMOLECULES IN A CELL-FREE SYSTEM ENRICHED WITH ATP-SULFURLASE

(57) Abstract: The present invention provides methods and composition for enhancing in vitro synthesis of biological macromolecules in a cell-free system where ATP is required as a primary energy source, wherein said cell-free system is enriched with ATP-sulfurylase. The invention relates also to cell-free systems and cell-free extracts enriched with ATP-sulfurylase for enhancing in vitro synthesis of any biological macromolecules.

# INTERNATIONAL SEARCH REPORT

International Application No  
IB 03/03936

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 C12N9/12 C12P19/34 C12P21/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 C12N C12P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, PAJ, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98/22615 A (LIFE TECHNOLOGIES INC) 28 May 1998. (1998-05-28)  example 2	1-3, 5-17, 19-21
A	KIM DONG-MYUNG ET AL: "Regeneration of adenosine triphosphate from glycolytic intermediates for cell-free protein synthesis." BIOTECHNOLOGY AND BIOENGINEERING, vol. 74, no. 4, 20 August 2001 (2001-08-20), pages 309-316, XP002227479 ISSN: 0006-3592 cited in the application the whole document	1-21

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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**INTERNATIONAL SEARCH REPORT**

Information on patent family members

Int'l

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IB 03/03936

Patent document cited in search report	Publication date		Patent family member(s)	Publication date
WO 9822615	A 28-05-1998	US	6291164 B1	18-09-2001
		AU	7302198 A	10-06-1998
		WO	9822615 A1	28-05-1998
		US	2001055792 A1	27-12-2001